EPEAT TRAINING WEBINAR
COMPUTERS AND DISPLAYS
4.3.2.2, 4.4.2.1, 4.4.2.2, 4.5.2.1

Europe: **February 17, 2015**
North America: **February 17, 2015**
Asia: **February 25, 2015**

Welcome – Thank you for attending

Mute function:

- To prevent unwanted interruptions, all participants are on mute.

Questions:

- This webinar addresses multiple criteria. There will be time for questions at the end of the presentation for each criterion.
- To ask a question, please use the chat function and send the message “To entire audience.”
- If you have a more detailed or confidential question, we are available for consultation. Please contact us by e-mail at **sherbert@greenelectronicscouncil.org**

Availability of presentation and webinar:

- We will be recording this webinar. The webinar and PDF presentation will be available on your My Account page and the EPEAT Online Learning Center. Please contact us for further details.

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EPEAT Training Webinar
Criteria 4.3.2.2, 4.4.2.1, 4.4.2.2 and 4.5.2.1

For each criterion:

- Review key elements of criterion & verification requirements
- Preparing for investigations – examples of potential evidence
- Questions & discussion

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Criterion 4.3.2.2 – Optional

Basics

Marking of plastics

- See page 20 of the IEEE 1680.1 Standard
- Optional criterion
- Applicable:
  - Wherever the product is sold (not country specific)
  - All purchasers (both consumers and institutional purchasers)
  - All product types

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Criterion 4.3.2.2 – Optional

Key elements

Different than 1680.2/.3

- Plastic marking criterion and verification requirements are different in 1680.2 and 1680.3.
- Plastic parts > 25 grams must have material marking code in accordance with ISO 11469.
- Individual plastic layers within a LCD panel, PCBs and cables do not have to be marked.
- No exceptions for the shape or surface area of a component.

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Criterion 4.3.2.2 – Optional

Key elements

Understand ISO 11469 and ISO 1043 series

- Criterion identifies ISO 11469 – provides overall guidance for material marking codes. ISO 11469 also references ISO 1043 series of standards:
  - ISO 1043-1: Polymers
  - ISO 1043-2: Fillers/reinforcing agents
  - ISO 1043-3: Plasticizers
  - ISO 1043-4: Flame retardants
- Very important to review and understand requirements of ISO 11469 and ISO 1043 series.

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Criterion 4.3.2.2 – Optional

Key elements

Permanent markings

Use of brackets > <

Correct use of + and -

- Markings must be molded in, embossed, melt imprinted, or some other legible and indelible marking – stickers cannot be used.
- Marking codes must be between the reversed angle brackets "> <" (e.g. >ABS<)
- Marking codes must include correct use of "+" (between polymer blends) and "-" (between polymer symbols and symbols for fillers, flame retardants, etc.). Important to understand the requirements.

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Criterion 4.3.2.2 – Optional

Examples of marking code

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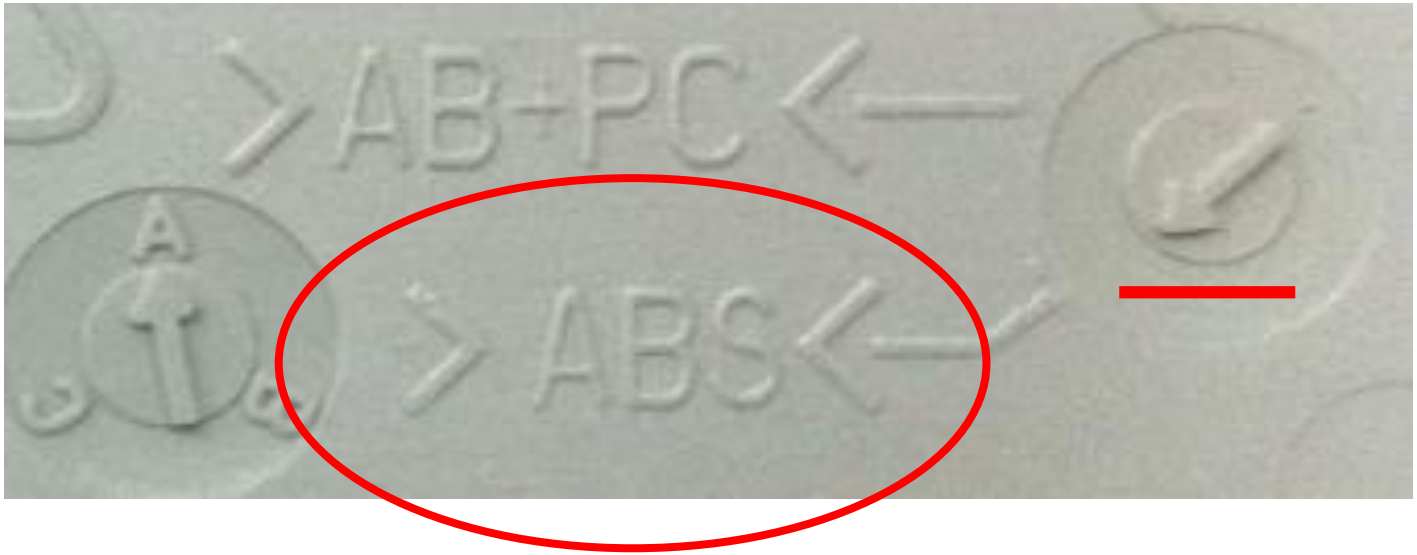
Criterion 4.3.2.2 – Optional

Examples of marking code



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Criterion 4.3.2.2 – Optional

Verification Requirements

The Qualified Verifier will request:

a) Declaration from manufacturer

b) Record of visual inspection

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Criterion 4.3.2.2 – Optional

Verification Requirements

Acceptable evidence:

Must submit <u>both</u> of these

1. List of all plastic parts > 25 g and their respective weights (e.g. Annex 1 Plastic Materials Form).
2. Photographs of all parts > 25 g showing the material marking codes.

Keep in mind:

Photographs can come in various forms:

- Just the photos alone or embedded into Annex 1.
- Photos as part of a QA/QC record (e.g. a log sheet) indicating the markings were inspected and found accurate.
- Photos included in an audit report of a plastic part supplier showing the markings were inspected and found accurate.

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Criterion 4.3.2.2 – Optional

Relevant Interpretations & Clarifications

http://www.epeat.net/resources/clarifications-and-interpretations/

- Clarification 7-1 (the two enclosure or casing pieces in an external power supply are to be treated as a single component for weight determination)

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Criterion 4.3.2.2 – Optional

Questions & Open Discussion

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Criterion 4.4.2.1 – Required

Basics

Upgradable with common tools

- See page 21 of the IEEE 1680.1 Standard
- Required criterion
- Applicable:
  - Wherever the product is sold (not country specific)
  - All purchasers (both consumers and institutional purchasers)
  - All product types BUT displays

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Criterion 4.4.2.1 – Required

Key elements

Number of components to be upgraded

Hardware versus software

- 5 components identified – HDD, DVD drive, floppy drive, memory, cards. If in the product, evidence must show they are upgradable or can be changed/extended (e.g. if no floppy, then no evidence needed for this.)
- Components must be “upgradable,” which may not require removing or replacing the component.
  - Can accomplish with hardware OR software solutions.
  - Instructions and list of tools (as per verification requirements) must address specific approach.

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Criterion 4.4.2.1 – Required

Key elements

USB and IEEE 1394 serial buses

- Example of upgrading / changing / extending is USB or high performance serial bus.
- Having a USB in-and-of-itself is not enough to show conformance:
  - Product must be able to support upgrades to the listed component (no limitations).
  - Instructions / list of tools must be also provided (as per the verification req.).
- Criterion is silent on number of USBs needed, however all upgrades must function simultaneously.

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Criterion 4.4.2.1 – Required

Key elements

Using service entities for upgrading

- "References and details" section indicates upgrading may be limited to designated service entities or the manufacturer. Criterion does not require upgrades by user or purchaser.
- However, stating "take item to service entity" does not fulfill the "instructions for upgrading the product" verification requirement, which must still be provided for the service entity.

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Criterion 4.4.2.1 – Required

Verification Requirements

The Qualified Verifier will request:

a) Declaration from manufacturer

b) Supporting documentation demonstrating that the product is upgradeable with commonly available tools. Examples of documentation include:

- A list of the commonly available tools required to upgrade product, and instructions for upgrading the product, or
- A statement from a minimum of three computer service, upgrade or refurbishment entities individually, or at least one computer service, upgrade or refurbishment entity working under an independent entity with electronics upgrade expertise that is not a trade organization, confirming that the product design meets requirements of 4.4.2.1

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Criterion 4.4.2.1 – Required

Verification Requirements

Examples of evidence:

Must have more than one of these

- List of components that can be upgraded.
- Instructions for upgrading the product (could be a separate document, provided on a website, in a user/service manual or in WEEE documentation).
- List of commonly available tools (both to remove existing components and install upgraded components).
- Product design or spec sheet showing capability and capacity to upgrade applicable components via USB or IEEE 1394 serial buses.

Keep in mind:

- Not required that separate instructions exist for each upgradeable component – i.e. instructions could explain how to connect product and download the drivers for upgrading specifically identified components.
- If hardware changes needed, instructions must address disassembly, how to upgrade with commonly available tools, and reassembly.
- Commonly available means purchased w/o restrictions; available on open market by retail, mail or web; nothing proprietary or needing a license.

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Criterion 4.4.2.1 – Required

Verification Requirements

Examples of evidence:

Must have both of these

- Written statement signed by qualified recyclers that demonstrates familiarity with the product and confirms product design meets requirements of 4.4.2.1.

  AND

- Written evidence that the recycler(s) signing the statement meet(s) the required qualification.

Keep in mind:

Qualification: “qualified” recyclers include either:

- A minimum of 3 recyclers individually.

  OR

- At least 1 recycler working under an independent entity with electronics recycling expertise that is not a trade organization.

“Independent” means that the individual does not have an ongoing business relationship with the manufacturer.

“Entity” could be a recycler or another organization that has expertise in electronics recycling.

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Criterion 4.4.2.1 – Required

Relevant Interpretations & Clarifications

http://www.epeat.net/resources/clarifications-and-interpretations/

- Clarification 14-1 (“commonly available tools” means can be purchased by any individual or business without restrictions; readily available for purchase on the open market; may be purchased at retail store or via mail or web. Does not include tools that are proprietary or require licensing / agreements.)

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Criterion 4.4.2.1 – Required

Questions & Open Discussion

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Criterion 4.4.2.2 – Optional

Basics

Modular design

- See page 21 of the IEEE 1680.1 Standard
- Optional criterion
- Applicable:
  - Wherever the product is sold (not country specific)
  - All purchasers (both consumers and institutional purchasers)
  - All product types BUT displays

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Criterion 4.4.2.2 – Optional

Key elements

Hardware versus software & USBs

- 4.4.2.2 is different from 4.4.2.1:
  - Major components / processor must be modular and changeable meaning they must be able to removed and replaced (not just “upgraded”).
  - Focus is on hardware solutions, not software solutions.
  - Availability of USB or other external ports does not qualify as “modular design.”

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Criterion 4.4.2.2 – Optional

Key elements

Major components

- Major component: Needed for functionality of the product & change will result in improved capacity, capability and/or performance that extends the life of the product.
- Examples: processors, HDD, optical drives, internal battery, motherboard, graphics/other cards, display panel assembly.
- Criterion does not indicate exact number that must be changeable, but must be more than one. Will depend on the number of major components in the product.

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Criterion 4.4.2.2 – Optional

Key elements

Changeability

- "Major component/processor" must be changeable independent of other major components in the product.
- For example, not acceptable if "change method" for major processor is to replace motherboard that it and other major components are on.
- "Major component/processor" can be soldered to a circuit board, but evidence must support that it can be changed without damaging the product (e.g. unsoldering, changing, re-soldering).

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Criterion 4.4.2.2 – Optional

Key elements

Using service entities for module changes

- Criterion does not require component changes be done by user or purchaser – can be limited to designated service entities or the manufacturer.
- However, stating “take item to service entity” does not fulfill the “description of module change method” verification requirement, which must still be provided for the service entity.

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Criterion 4.4.2.2 – Optional

Verification Requirements

The Qualified Verifier will request:

a) Declaration from manufacturer

b) Description of product modules

c) Description of module change method

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Criterion 4.4.2.2 – Optional

Verification Requirements

Examples of evidence:

Must have more than one of these

- List and description of all “major components” that can be changed.
- Instructions for changing the major components (could be a separate document, provided on a website, in a user/service manual or in WEEE documentation).
- Product design or spec sheet showing capability and capacity to change major components.

Keep in mind:

- Could be separate instructions for each component.
- Instructions must address disassembly, how to change each major component with tools, and reassembly – product must be able to function after the change.
- If soldered component, “description of change module” must include instructions for a well-defined and controlled process to remove the component by unsoldering, and then change the component by re-soldering.

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Criterion 4.4.2.2 – Optional

Relevant Interpretations & Clarifications

http://www.epeat.net/resources/clarifications-and-interpretations/

- Clarification 6-1 (processor must be changeable independent of other components such as the circuit board to which it is attached)
- Clarification 11 (since requirement can be met by design and manufacture, paperwork does not need to pre-date the declaration in the Registry)

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Criterion 4.4.2.2 – Optional

Questions & Open Discussion

- Please use the chat function and send the message “To entire audience.”
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Criterion 4.5.2.1 – Optional

Basics

Renewable energy accessory available

- See page 23 of the IEEE 1680.1 Standard
- Optional criterion
- Applicable:
  - Can be claimed differently in different countries
  - All purchasers (both consumers and institutional purchasers)
  - All product types

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Criterion 4.5.2.1 – Optional

Key elements

"Commercially available for purchase with the product"

- Purchaser must have the option to buy the accessory at the same time as buying the computer / display.
- However, accessory may be provided by (or come from) a third-party.
- Purchasers must be notified somehow of the availability of the accessory when purchasing the computer / display – for example: on website or in product literature. Information must be available when purchasing product.
- Declaration on the EPEAT Registry is not of itself adequate commercial documentation.

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Criterion 4.5.2.1 – Optional

Key elements

Powering typical duty cycle of product

- Accessory must be capable of powering a typical duty cycle of the product.
- Intent is to provide a majority of the power needed by the computer or display in a way that is practical and effective for a typical duty cycle of the device, though possibly not continuously without interruption.

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Criterion 4.5.2.1 – Optional

Verification Requirements

The Qualified Verifier will request:

a) Declaration from manufacturer

b) Commercial documentation of product availability

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Criterion 4.5.2.1 – Optional

Verification Requirements

Examples of evidence:

Must have more than one of these:

- Documentation showing how the accessory is “commercially available” (e.g. website URL, literature for the computer / display).
- Documentation showing how the accessory can be purchased at the same time as purchasing the computer / display (e.g. details on ordering, website URL).
- Documentation demonstrating how the accessory can power a typical duty cycle of the computer / display (e.g. specification, technical documentation).

Keep in mind:

- Evidence must be country-specific.
- “Commercially available” documentation must be available at the time of purchasing the computer / display.

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Criterion 4.5.2.1 – Optional

Relevant Interpretations & Clarifications

http://www.epeat.net/resources/clarifications-and-interpretations/

- Interpretation 1-9 (power typical duty cycle, though possibly not continuously without interruption; must be able to purchase with product)
- Clarification 1-3 (must be available for purchase with product though accessory can come from 3rd party; availability must be made evident to purchasers at time of purchase; declaration on Registry alone is not adequate commercial documentation)

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Criterion 4.5.2.1 – Optional

Questions & Open Discussion

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Questions from Webinar Participants

Provided below are the responses to questions asked by webinar participants

- Criterion 4.3.2.2:
  - Question: Do printed circuit boards and cables need to be marked with material codes?
  - Response: No, PCBs and cables do not need to have material marking codes.

- General question on age of data:
  - Question: Must test data used for a Verification Round pre-date when a product was initially declared in the Registry?
  - Response: A product must be in conformance with the declared criteria on the date of registration and thereafter. Depending on the criterion, the demonstration of conformance may require evidence dated prior to declaration (for example, criterion 4.7.3.2 Optional – Corporate report consistent with Performance Track or GRI). In other cases, such as those criteria that require analytical / empirical test data in Section 4.1, more recent test reports are suitable. See Clarification #29 for details (http://www.epeat.net/documents/clarifications/Clarification29.pdf).

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THANK YOU FOR ATTENDING

sherbert@greenelectronicscouncil.org